

# **EXHIBIT A**

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UNITED STATES DISTRICT COURT  
DISTRICT OF NEVADA

ORACLE USA, INC., a Colorado corporation;  
ORACLE AMERICA, INC., a Delaware  
Corporation; and ORACLE INTERNATIONAL  
CORPORATION, a California corporation,

Plaintiffs,

v.

RIMINI STREET, INC., a Nevada corporation;  
SETH RAVIN, an individual,

Defendants.

CASE NO. 2:10-cv-0106-LRH-PAL

**DECLARATION OF CHRISTIAN B.  
HICKS IN SUPPORT OF JOINT CASE  
MANAGEMENT STATEMENT**

Date: March 29, 2011  
Time: 10:00 a.m.  
Place: Courtroom 3B  
Judge: Magistrate Judge Leen

1 I, Christian B. Hicks, declare:

2 1. I am president and co-founder of Elysium Digital, LLC. I have an A.B. in  
3 computer science from Princeton University. Except for matters stated below on information  
4 and belief, I have personal knowledge of the matters stated in this Declaration by virtue of the  
5 retention of me and Elysium Digital in this action by Oracle's counsel. If called and sworn as a  
6 witness, I could and would competently testify as to such matters.

7 2. Elysium Digital has been engaged, in part, to locate and analyze the Oracle  
8 software and support materials found on Rimini Street's computer systems, to determine the  
9 sources of these materials, and to understand how Rimini Street has used and modified these  
10 materials, particularly in connection with Oracle's claims of copyright infringement and  
11 unlawful computer access in violation of the federal Computer Fraud and Abuse Act.

12 3. Since 1997, I have worked on more than 140 litigation matters relating to  
13 intellectual property and computer forensics. For example, I was called as a witness for the  
14 prosecution in *U.S. v. Therrien*, a case in which Elysium analyzed evidence over a period of  
15 more than 26 months. I also worked on *Computer Sales International v. Lycos*, a case in which  
16 Elysium analyzed evidence over a period of more than 12 months. I also worked on  
17 *Massachusetts Convention Center Authority v. HNTB Corporation et al.*, a case in which  
18 Elysium analyzed evidence over a period of more than 10 months. It is common for other  
19 sources of discovery, including depositions, to trigger additional analyses in large forensic cases.  
20 A copy of my curriculum vitae is attached as **Exhibit 1**.

21 4. Approximately 10 full-time equivalent Elysium Digital employees are assisting  
22 me in this matter. Each employee has advanced technical skills, and nearly all have advanced  
23 computer science degrees or substantial experience working with sophisticated and complex  
24 computer systems. I was retained on July 1, 2010 and have assigned all available resources  
25 within my company to this project.

26 5. Based on my experience in designing, managing, and performing large-scale  
27 computer forensic analyses, and Elysium Digital's analysis of the data produced by Rimini Street  
28 thus far in this action, I believe there is insufficient time in the current case schedule to obtain

1 and analyze the materials necessary to assess the full extent to which Rimini Street has copied,  
2 modified and distributed Oracle's software and support materials covered by the 105 copyright  
3 registrations at issue in this case, which currently cover three distinct product lines (PeopleSoft,  
4 J.D. Edwards and Siebel).

5 6. I estimate that it will take approximately 11 months to complete the necessary  
6 technical analyses described below. I believe it would be possible to shorten this time by using  
7 statistical analysis of an appropriate sample of some of the support materials distributed by  
8 Rimini Street. However, given the additional complexities involved in statistical analysis, I do  
9 not believe that even then the analysis could be completed any earlier than eight months after  
10 Elysium receives the data it needs to analyze.

11 7. Below I describe the specific analyses that I presently intend to conduct, how they  
12 relate to Oracle's claims and Rimini's defenses, and the nature of the information that Rimini  
13 Street has, and that Elysium Digital requires, to complete those analyses, and the time that I  
14 believe will be required to complete those analyses.

15 **Rimini Street business process analysis**

16 8. At the outset, it is necessary to understand that the overwhelming bulk of the  
17 technical data that is relevant to this action is in the possession of Rimini Street. Rimini Street  
18 provides its customers with technical support and software modifications for Oracle's  
19 PeopleSoft, J.D. Edwards and Siebel product lines. In providing that support and those  
20 modifications, Rimini engages in two categories of conduct that are of particular importance to  
21 my analyses.

22 9. First, I understand that for many of its support customers, Rimini makes a copy, at  
23 Rimini's facilities, of the Oracle software application that the customer has installed on the  
24 customer's own systems. This copy of the application is called an "environment." Rimini Street  
25 maintains these installed copies of Oracle's software on its systems in the form of hundreds of  
26 software environments. To date, Elysium Digital has received copies of 72 of Rimini Street's  
27 PeopleSoft environments. Rimini Street has identified at least 199 PeopleSoft environments,  
28 nine J.D. Edwards environments and 124 Siebel environments that it has not yet produced. I

1 understand that Rimini claims that the ways in which it makes, alters, and uses these  
2 environments are permitted by the licenses that Oracle previously issued to Rimini Street's  
3 customers and I understand that Oracle disputes this contention.

4 10. Second, I understand that to provide support, Rimini Street delivers to its  
5 customers software code – often referred to as “updates” or “fixes” – that modify the Oracle  
6 software application that is operating on the customer's systems. Rimini Street has created over  
7 1,000 fixes for PeopleSoft software alone, each of which may contain many individual code  
8 objects. I understand that Oracle contends that Rimini Street's fixes infringe Oracle's copyrights  
9 because the fixes themselves contain more than a trivial amount of Oracle's code, or because  
10 application of the fixes to existing environments creates a new version of the Oracle software. I  
11 understand that Oracle contends that the processes by which these fixes are generated and tested  
12 is outside the scope of any license that could be relevant, for example, when a fix generated or  
13 tested in an environment allegedly dedicated to one customer is delivered to a second customer.

14 11. As discussed further below, Rimini Street's computer systems contain very large  
15 amounts of various sorts of data, each stored in multiple locations. The relevant data sources that  
16 have been identified thus far include the hundreds of environments described above; the updates  
17 and fixes described above; other files that Rimini Street calls “customer archives,” which are  
18 additional copies of Oracle software; and documentation created by Rimini Street concerning  
19 Rimini Street's development, testing and packaging of its fixes and updates for PeopleSoft  
20 software.

21 12. To understand and analyze these complex systems of data, Elysium Digital must  
22 first understand Rimini Street's business processes. One useful way to learn how a technical  
23 organization works is to interview its technical personnel via deposition. Reviewing deposition  
24 testimony allows Elysium Digital to approach an organization's data and processes through the  
25 eyes of the people who create and manipulate the data and who follow (or deviate from) any  
26 formal or informal processes.

27 13. For example, Oracle's recent deposition of Beth Lester discussed aspects of the  
28 development and testing of six specific PeopleSoft tax and regulatory updates: the resources

1 required (both human and computer), the flow of data from one place to another, and the places  
2 to look to find clues about the most efficient ways to analyze that data.

3 14. Ms. Lester repeatedly stated during her deposition that there was no shortcut to  
4 extensive analysis of Rimini Street's computer systems; that there was no one place on Rimini  
5 Street's computer systems to look for information; that the process by which the objects in any  
6 given fix were created, or the nature, location and organization of data available for that fix  
7 might be different from any other fix; and that no one type of data or documentation provided a  
8 complete picture of the development, testing, packing and delivery process. If Ms. Lester's  
9 testimony is accurate, then the only way to determine the true extent of Rimini Street's copying,  
10 modification and use of Oracle's software and support materials is by obtaining detailed,  
11 accurate information about the generation, testing and delivery of each particular fix, or at the  
12 very least, about the generation, testing and delivery of a large enough representative sample of  
13 such fixes to permit statistical analysis by still other experts.

14 15. Consequently, it is important that I and my colleagues be able to review detailed  
15 testimony about the generation, testing and delivery of Rimini Street's fixes and updates, and  
16 about the origins and history of the environments that Rimini Street uses in the course of its  
17 support operations. To the extent possible, this testimony should cover the time period from the  
18 earliest fixes and updates delivered by Rimini Street to their current operations.

19 16. Moreover, Ms. Lester testified only about Rimini Street's activities with respect  
20 to Oracle's PeopleSoft software. Because of the possible differences between the product lines,  
21 it is important that I review similar depositions about Rimini Street's copying, modification,  
22 distribution and use of Oracle's JD Edwards and Siebel software, preferably for specific  
23 instances of support delivery.

24 **File comparisons**

25 17. Once I have sufficient information about the location of Oracle's software and  
26 support materials Rimini Street's computer systems and the likely manner in which they were  
27 used, there are a variety of standard forensic methods by which Elysium Digital can analyze  
28 those software and support materials.

1           18.     A “hash” is the result of a function that converts the contents of a file into a  
2 character string of fixed length. “MD5 hash,” is a specific, well-known hash function,  
3 commonly used in computer science and forensic analysis to compare the content of two  
4 computer files.

5           19.     As part of its analysis, Elysium Digital intends to calculate the MD5 hash for all  
6 files located on Rimini Street’s computer systems that comprise Oracle software and support  
7 materials and for all files produced by Oracle and identified as files comprising Oracle’s  
8 copyrighted software. Once hash values have been calculated for all such files, Elysium Digital  
9 can then determine whether any two files are exact duplicates by comparing their hash values.

10          20.     Although MD5 hash comparison is a valuable tool, one limitation is that any  
11 change, however slight, to the contents of a file changes the MD5 hash. For instance, if two files  
12 are identical except for an extra space at the end of a file, they will have different MD5 hash  
13 values, and thus be deemed not to be identical. MD5 hashes can only demonstrate exact  
14 duplicates – they do not provide any information at all about degrees of similarity.

15          21.     Consequently, Elysium Digital also intends to perform more difficult comparisons  
16 to investigate the degree of similarity between files. We might attempt to determine similarity  
17 by mathematically calculating the degree of overlap between two files, or by creating visual  
18 comparisons between two files that will be reviewed by technical personnel. These similarity  
19 comparisons will permit Elysium Digital to identify files that are similar but not identical. This  
20 process is labor-intensive, requiring substantial time from skilled personnel.

21          22.     The Oracle environments maintained by Rimini Street also include databases that  
22 contain Oracle code. Elysium Digital intends to compare the contents of the database portion of  
23 Oracle environments in order to determine the degree of similarity between the Oracle code  
24 found in the databases of those environments. The contents of a database cannot be compared in  
25 the same manner that individual files can be compared. To permit analysis of the contents of  
26 environment databases, Elysium Digital will export certain data from all databases to be  
27 analyzed, and will then compare the files that result from the export. These database  
28 comparisons will permit Elysium Digital to evaluate the degree of similarity between the results

1 of particular queries against different databases. Such review requires human attention, and this  
 2 substantial volume of work requires substantial time.

### 3 **Environment analysis**

4 23. As described above, Rimini Street maintains installed copies of Oracle's software  
 5 on its systems in the form of hundreds of software environments; Elysium Digital has received  
 6 copies of 72 of Rimini Street's PeopleSoft environments. Each of the 72 was produced inside of  
 7 a "virtual machine" data file, which, when loaded into the proper software, emulates a physical  
 8 computing environment. To examine any given environment, Elysium Digital must first load the  
 9 virtual machine that contains that environment.

10 24. Based on my review and understanding of Rimini Street's records and data  
 11 produced to date, I understand that Rimini Street has not yet produced the majority of PeopleSoft  
 12 environments on Rimini Street's servers, nor any J.D. Edwards environments, nor any Siebel  
 13 environments. Rimini Street has identified at least 199 PeopleSoft environments, nine J.D.  
 14 Edwards environments and 124 Siebel environments that it has not yet produced.

15 25. Elysium Digital is cataloging the contents of each of the PeopleSoft environments  
 16 already produced by Rimini Street. At present time, Elysium Digital is capturing metadata about  
 17 each file within each of the PeopleSoft environments, and is calculating MD5 hash values for  
 18 each file. Once the hash values have been calculated, Elysium Digital can determine whether  
 19 two files are exact duplicates by comparing their hash values.

20 26. Elysium Digital is making a reference copy of each new file encountered, so that  
 21 the contents of files within a virtual machine can be compared to the contents of files outside that  
 22 virtual machine. Once copies of the files have been made, Elysium Digital can perform various  
 23 similarity comparisons between two files to determine how similar the files are.

24 27. Each environment for PeopleSoft enterprise software contains a database with  
 25 information about that environment. To permit analysis of the contents of environment  
 26 databases, Elysium Digital will export certain data from each database in each virtual machine.  
 27 Rimini Street uses or has databases from a variety of vendors, including but not limited to Oracle  
 28 Database, Microsoft SQL Server, Informix, Sybase and DB2. This variety of databases increases



1 the complexity of the database comparison task.

2 28. Each of the steps described above requires a substantial amount of time from  
3 Elysium Digital employees with technical training, as well as my own oversight and analysis. In  
4 addition, it takes powerful computers a significant amount of time to load, process, and analyze  
5 the enormous volumes of data that have been produced and will be produced during discovery in  
6 this case. Some queries listed above may take weeks just to complete. I understand that Rimini  
7 Street's counsel recently reported that it took four weeks just to run a program called Karen's  
8 Directory Printer to create a report about file information on just one of the data sources, the  
9 "customer archives" described below. The time that this one task required exemplifies the time-  
10 consuming nature of this analysis.

11 **Customer archives**

12 29. As mentioned above, Rimini Street stores certain Oracle software and support  
13 materials in what it calls "customer archives." These customer-labeled archives contain copies  
14 of Oracle software and support materials.

15 30. Elysium Digital has received certain metadata for the 10,185,495 files within the  
16 customer archives, including MD5 hash values for each of the files contained within the  
17 customer archives. As described above, Elysium Digital can thus determine whether any file  
18 within the customer archives is an exact copy of some other file by comparing the hash values  
19 for those two files. This analysis will assist in the determination of what sources may have been  
20 used to create customer environments; for instance, whether materials found in an archive  
21 ostensibly labeled for one customer were in fact used to create an environment used for a  
22 different customer.

23 31. Elysium Digital has not received copies of any of the customer archives; instead,  
24 Rimini Street has provided read-only VPN access to the customer archives. As a result, Elysium  
25 Digital neither has nor is able to create the copies of the files within these archives that are  
26 necessary to perform similarity comparisons.

27 **Downloading Tools**

28 32. I understand that Rimini used certain automated programs to download software

1 and support materials from certain Oracle web sites and that Oracle has requested from Rimini  
2 the production of the source code for those automated programs.

3 33. Elysium Digital's analysis of Rimini's downloading activity is expected to  
4 include consideration of the software used by Rimini to conduct downloading. Depending on  
5 the nature of the software code at issue, which I have not yet seen, deposition testimony of the  
6 individuals who wrote and/or used the software may be helpful or necessary to understand its  
7 operation.

8 34. After the downloading software and methodologies are understood, Elysium  
9 Digital can conduct an analysis of the downloaded files in Rimini's archives, along with other  
10 data sources, to determine which files were downloaded using Rimini's automated downloading  
11 tools, and compare those files to Oracle's registered works.

12 **PeopleSoft fixes and updates**

13 35. Rimini Street has created over 1,000 fixes for PeopleSoft software. Fixes for  
14 PeopleSoft software include both files and database contents. Fixes that I have examined thus  
15 far can contain as many as 30 individual objects — discrete computer programs that Rimini  
16 Street apparently copies or generate from a pre-existing environment. In some cases, multiple  
17 versions of each object exists. Extrapolating from the fixes I have reviewed to date, there may  
18 be in excess of 20,000 objects to analyze in order to analyze the fixes they constitute.

19 36. Copies of these fixes are found in many different locations on Rimini Street's  
20 computer systems. These include: the client FTP Server, used as one means to transmit material  
21 clients; HRMS Development network file share, a network location used by Rimini internally in  
22 distributing fixes and updates; and HRMS Delivered, a Rimini network location described as  
23 containing the fixes and updates delivered to customers. I expect that additional copies of these  
24 fixes and their components can be found on the local machines of individual Rimini Street  
25 employees.

26 37. Elysium Digital has received a copy of a Rimini FTP Server containing 276,597  
27 of these fixes, and has calculated MD5 hashes for the contents of this FTP Server. Additionally,  
28 878 files have been produced from the HRMS Development network file share, relating to six

1 particular fixes.

2 38. Analysis of the material on the Rimini FTP server, as well as Rimini-produced  
3 documents and testimony, indicates that Rimini personnel manually deleted material from certain  
4 objects contained in fixes and updates. The deleted material identified the name of the  
5 environment with which the particular object was generated, allowing determination of which  
6 customer's software was used to create it. We have identified more than 5,000 separate objects  
7 from which this identifying data have been removed. As a result, the analysis of PeopleSoft  
8 fixes and updates will be more time-consuming and difficult than it otherwise would have been,  
9 requiring resort to other, less direct techniques.

#### 10 **PeopleSoft development documentation**

11 39. Rimini Street maintains documentation concerning the development, testing and  
12 packaging of its fixes and updates for PeopleSoft software. Copies of this documentation are  
13 found in many different locations on Rimini Street's computer systems, including DevTrack,  
14 which is a database used by Rimini as part of its work on updates and fixes process and, based on  
15 testimony, the HRMS Functional network file share, a location described as containing files  
16 showing how fixes and updates are tested, including on which Oracle software. I expect that  
17 additional copies of this documentation can be found on the local machines of individual Rimini  
18 Street employees.

19 40. Elysium Digital has not received copies of any materials from DevTrack; instead,  
20 Rimini Street has provided read-only access to DevTrack. Elysium Digital is able to print  
21 screens and download attachments through this read-only access.

#### 22 **Summary**

23 41. In total, based on the information presently available to me and having dedicated  
24 all available resources within my company to this task, I estimate that it will take approximately  
25 11 months to complete the analysis I have outlined above, subject to when Elysium receives the  
26 Rimini Street productions. I believe it is possible to reduce this time by using statistical analysis  
27 to evaluate certain populations such as, for example, certain of the fixes generated and delivered  
28 by Rimini Street to its customers. However, given the additional complexities involved in

1 statistical analysis, I believe that even then the analysis cannot be completed any earlier than  
2 eight months after Elysium receives the data it needs to analyze – an event that has not yet  
3 occurred.

4  
5 I declare under penalty of perjury under the laws of the United States of America  
6 that the foregoing is true and correct.

7  
8 Executed on March 25, 2011 in Boston, Massachusetts.

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11 By: /s/ Christian B. Hicks  
12 Christian B. Hicks  
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# **EXHIBIT 1**

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**Name:** Christian B. Hicks

**Education:**

- Princeton University, A.B. Computer Science 1997
- NTI, Data Forensics Training 2003

**Awards and Distinctions:**

- Summa Cum Laude
- Sigma Xi
- 1997 Recipient of the Computer Science Senior Prize

**Employment History:**

- 1997 - Present, Elysium Digital, L.L.C., President and Co-Founder
- 1996, AT&T Consumer Lab, Consultant
- 1995, AT&T Bell Labs, Summer Researcher

**Research/Publications:**

- Co-inventor of U.S. Patent 5,982,892, "System and method for remote authorization for unlocking electronic data."
- Co-inventor of U.S. Patent 6,567,793, "Remote authorization for unlocking electronic data system and method."
- Co-inventor of U.S. Patent 7,346,583, "Remote authorization for unlocking electronic data system and method."
- Undergraduate Thesis: Predictive Computer Models for Time-Series Tracking Data Applied to *Lemur catta*
- Metamodeling with Perl and AMPL, C. Hicks and D. Pachamanoval, Dr. Dobbs Journal, January 2005.
- Back-propagation of user innovations: The open source compatibility edge, C. Hicks and D. Pachamanoval, Business Horizons (2007) 50, 315-324.
- Capturing Forensic Evidence When Employees Leave, C. Hicks, TortSource Vol. 9 No. 4 (2007).

EXHIBIT B



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The following is listing of any other cases in which I have testified as an expert at trial or by deposition:

I gave deposition and trial testimony in the matter of Leon Stambler v. RSA Security, Inc. and VeriSign, Inc. in the United States District Court in and for the District of Delaware. Previously, I had submitted an expert report in this case.

I gave deposition testimony in the matter of TV Interactive Data Corp v. Microsoft Corporation in the United States District Court, Northern District of California, San Francisco Division. I also submitted expert reports in this case.

I gave deposition testimony in the matter of Hark Chan; Techsearch, LLC; and IP Innovation, LLC v. Intuit, Inc.; Symantec Corporation; and Electronic Arts, Inc. in the United States District Court, Northern District of California, San Francisco Division.

I gave deposition, hearing and trial testimony in the matter of StorageTek v. Custom Hardware Engineering and Consulting, Inc. in the United States District Court, District of Massachusetts. I also submitted affidavits and expert reports in this case.

I gave deposition testimony in the matter of Paul Cozza v. McAfee, Inc. in the United States District Court, District of Massachusetts. I also submitted expert reports in this case.

I gave hearing and trial testimony in the matter of United States v. Robert Therrien in the United States District Court, District of Massachusetts. I also submitted expert reports in this case.

I have also submitted affidavits, declarations and expert reports in other cases.